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REMARKS

Claims 1-14 are now pending in the application. Claims 1, 3, 4, 6, 9, and 11 have been amended, and new claims 12-14 added without introduction of new matter. Favorable reconsideration is respectfully requested in view of the following remarks.

It is noted that the "Office Action Summary" page of the Action indicates that this is a final Action. However, the Detailed Action does not indicate that the rejections have been made final, nor would finality be appropriate in view of the new ground of rejection (i.e., newly cited art "Lindbom" in combination with "Strolle" - see below) following Applicants' last response which included no claim amendments. See M.P.E.P. §706.07(a), page 700-74 (Rev. 2, May 2004). A check of Private PAIR confirmed that this Action is characterized as nonfinal in the Patent Office's own database. A copy of the relevant web page is attached. A call to the Examiner on December 8, 2005 further confirmed that this Office Action was intended to be nonfinal, and this Amendment is being filed on that basis.

The indication that claims 6-8 define allowable subject matter is noted with appreciation. In response, claim 6 has been rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Accordingly, claim 6 as well its dependent claims 7 and 8 are now in condition for allowance.

Claims 3 and 9 have been amended merely to even more clearly spell out the meaning of the abbreviations DPCH and CPICH that were used in the original claims. Support for these amendments may be found in the specification at, for example, page 2, lines 14-17.

Claims 1, 4, 9, and 10 stand rejected under 35 USC §103(a) as allegedly being unpatentable over Strolle (USPN 6560299). The Action further adds, "if this is not sufficient then Strolle in view of Lindbom USPN 5,581,580." Thus, two grounds of rejection appear to be stated: A first one involving Strolle by itself, and a second one involving Strolle in combination with Lindbom. These rejections are respectfully traversed in the following.

Considering first the rejection based on Strolle alone, in Applicants' Response filed on June 27, 2005 (the arguments of which are hereby incorporated herein by reference), it was argued that all of the embodiments defined by independent claims 1, 4, and 9 include deriving first and second sets of channel estimates from symbols received respectively through first and second channels, *and then using these first and second sets of channel estimates as the basis for determining the gain offset*. Knowledge of the gain offset is useful because it can be used by the receiver as a basis for effectively generating an improved

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estimate of the channel from the first and second channel estimates. It was further argued that the Office has failed to make out a *prima facie* case of obviousness at least because the Strolle patent fails to disclose or suggest generating a gain offset from first and second channel estimates, each estimate corresponding to a different channel. Applicants also traversed the Office's contention that Strolle's power estimators 402, 412 are channel estimators. That is, instead of generating first and second channel estimates and then "determining the gain offset based on the first and second sets of channel estimates" as required by Applicants' claims, Strolle discloses using a *power estimator* 402, 412 to determine the respective gains of signals being processed by two receiver paths of a single channel. As explained in Strolle at column 8, lines 42-45, "a power estimator is a signal level sensing circuit, which provides a measure of the signal level (in this case, power) for comparison with a target reference level 402, 412." It is only after the gains are measured that Strolle's receiver is able to determine estimates of the two signal paths. This is apparent in Strolle at, for example: figure 1, which show the Front End A 18A and Front End B 18B being situated upstream of Equalizer A 24A and Equalizer B 24B, so that gain is determined prior to equalization parameters; and figure 4 which shows each of the power estimators 402, 412 receiving an input only from a respective one of the tuners, not from the equalizers 24A and 24B.

In its first ground of rejection, the Office continues to maintain that a power estimate is a channel estimate (see numbered paragraph 3 in the "Response to Arguments" section of the Action). It is Applicants' continued belief that this assertion is contrary to the accepted meaning of "channel estimate" by those of ordinary skill in the relevant art and as used throughout the application. However, in the interest of advancing favorable prosecution of the application, each of independent claims 1, 4, and 9 has been amended to even more clearly define what a channel estimate is. In particular:

- independent claim 1 has been amended to recite "wherein each of the channel estimates is a model of one of the first and second channels, and includes one or more channel tap coefficients"; and
- each of independent claims 4 and 9 has been amended to recite "each of the channel estimates in the first set of channel estimates is a model of the transmission channel, and includes one or more channel tap coefficients; and each of the channel estimates

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in the second set of channel estimates is a model of the second channel, and includes one or more channel tap coefficients".

The specification provides abundant support for these amendments, including for example page 3, line 29 through page 4, line 1; and page 10, lines 3-6.

The power estimators 402, 412 of Strolle do not generate models of channels including one or more channel tap coefficients. Thus, Strolle fails to include all of the features defined by Applicants' independent claims 1, 4, and 9, as well as claim 9's dependent claim 10. Moreover, it is believed that there is simply no motivation to modify the arrangement of Strolle to use channel estimators instead of power estimators because, among other things, Strolle's arrangement is understood to require the output of a signal power estimator, not a channel estimator, so that it can operate for its intended purpose. See M.P.E.P. §2143.01, page 2100-131 (Rev. 2, May 2004): "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification" (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)).

Turning now to the second ground of rejection, the Office appears to concede that there is a difference between power estimation and channel estimation because it relies on Lindbom as teaching channel estimates and symbols. (See numbered paragraph 12 of the Action.) Reliance on Lindbom in support of the rejection is unfounded for several reasons.

First, Lindbom does not disclose generating a channel estimate for each of two different channels and using those channel estimates to determine a gain offset between the channels. Instead, Lindbom is concerned with generating a channel estimate for only a single channel. (Note: Applicants are well aware that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. However, it is necessary to analyze each reference individually to determine whether all of the references are lacking the same claimed element, so that their combination would also lack that element.)

Moreover, there would have been no motivation for one of ordinary skill in the art at the time of Applicants' invention to substitute Lindbom's channel estimator for each of Strolle's power estimators 402, 412 at least because such substitution would have left Strolle's arrangement inoperative for its intended purpose. See, e.g., M.P.E.P. §2143.01, page 2100-131 (Rev. 2, May 2004). Strolle's power estimators 402, 412 are part of a joint

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Automatic Gain Control (AGC) loop 16 for use in a diversity receiver. This arrangement needs to generate measurements of actual received signal power so that those measurements can be compared with target reference levels 408.

For at least the foregoing reasons, independent claims 1, 4, and 9 and dependent claim 10 are believed to be patentably distinguishable over the Strolle and Lindbom patents regardless of whether these documents are considered individually or in combination. Therefore, it is respectfully requested that the rejections of claims 1, 4, and 9-10 under 35 USC §103(a) be withdrawn.

Claims 2, 3, and 11 stand rejected under 35 USC §103(a) as allegedly being unpatentable over Strolle in view of Choi (USPN 6754473). The Action further adds, "and in view of Lindbom if needed." Thus, two grounds of rejection appear to be stated: A first one involving Strolle and Choi by themselves, and a second one involving Strolle and Choi in further combination with Lindbom. These rejections are respectfully traversed in the following.

Claims 2 and 3 depend from independent claim 1, and claim 11 has independent claim 9 as its base claim. Because these dependent claims inherit the features of these independent claims they are patentably distinguishable over the Strolle and Lindbom patents for at least the same reasons as those set forth above.

The Choi patent fails to make up for the deficiencies of Strolle and Lindbom. The Office variously relies on Choi for its disclosures of pilot channels and of the WCDMA channels referred to in the art as DPCH and CPICH. However, Choi fails to disclose or suggest features such as deriving a first set of channel estimates from symbols received through a first channel; deriving a second set of channel estimates from symbols received through a second channel; and determining the gain offset based on the first and second sets of channel estimates, as required by Applicants' claims. Consequently, any combination of Strolle with Choi will still fail to include these features. (Again: Applicants are well aware that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. However, it is necessary to analyze each reference individually to determine whether all of the references are lacking the same claimed element, so that their combination would also lack that element.)

For at least the foregoing reasons, claims 2, 3, and 11 are believed to be patentably distinguishable over the Strolle, Lindbom and Choi patents, regardless of whether these

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documents are considered individually or in any combination. Accordingly, it is respectfully requested that the rejections of these claims under 35 USC §103(a) be withdrawn.

Claim 5 stands rejected under 35 USC §103(a) as allegedly being unpatentable over Dufour (USPN 6700537). The Action further adds, "and in view of Lindbom if needed." Thus, two grounds of rejection appear to be stated: A first one involving Strolle and Dufour by themselves, and a second one involving Strolle and Dufour in further combination with Lindbom. These rejections are respectfully traversed in the following.

Claim 5 depends from independent claim 4, and is therefore patentably distinguishable over the Strolle and Lindbom patents for at least the same reasons as those set forth above with respect to claim 4.

The Dufour patent fails to make up for the deficiencies of Strolle and Lindbom at least because it fails to disclose or suggest such features as deriving a first set of channel estimates from symbols received through a first channel; deriving a second set of channel estimates from symbols received through a second channel; and determining the gain offset based on the first and second sets of channel estimates, as required by Applicants' claims. Consequently, any combination of Strolle and Lindbom with Dufour will still fail to include these features.

Moreover, none of the Strolle, Lindbom and Dufour patents discloses determining the gain offset using a second-order equation, as defined by claim 5. In support of its rejection, the Office relies on Dufour for its alleged teaching that variance is proportional to the square of the difference in gain. However, determining a variance is not equivalent to determining a gain offset. Consequently, any combination of Strolle and Lindbom with Dufour will still fail to include the feature defined by claim 5.

For at least the foregoing reasons, claim 5 is believed to be patentably distinguishable over the Strolle, Lindbom and Choi patents, regardless of whether these documents are considered individually or in any combination. Accordingly, it is respectfully requested that the rejections of this claim under 35 USC §103(a) be withdrawn.


New claims 12-14 have been added without introduction of new matter. The text of these claims replicates the text of original claims 6-8 (i.e., with claim 12 depending from now-amended claim 4). These claims are believed to be patentable over the prior art of record at least for the same reasons set forth above with respect to claim 4, from which they depend.

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The application is believed to be in condition for allowance. Prompt notice of same is respectfully requested.

Respectfully submitted,
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